Chuck Surges
Columbus Container, Inc.
3460 Commerce Drive,
Columbus, IN 47201

Re: Registered Construction and Operation Status,
005-11635-00089

Dear Chuck Surges:

The application from Columbus Container, Inc., received on December 20, 1999, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.1, it has been determined that the following corrugated box manufacturing facility, to be located at 3460 Commerce Drive, Columbus, IN 47201, Indiana, is classified as registered:

(a) Four (4) shredders identified as Shredder – 1, Shredder – 2, Shredder – 3, and Shredder – 4, with maximum capacity of 3,600 pounds per hour each.
(b) One (1) shredder identified as Shredder-5 with a maximum capacity of 5,600 pounds per hour.
(c) One (1) cyclone identified as Cyclone #2 with a maximum capacity of 36,800 pounds per hour operating at 99% control efficiency and exhausting to C-2. The output from Cyclone #2 bottom hopper is fed to Cyclone#1.
(d) One (1) cyclone identified as Cyclone #1 with a maximum capacity of 21,600 pounds per hour operating at 99% control efficiency and exhausting to stack identified as C-1. The output from Cyclone #1 is fed to the baler.
(e) One (1) baler identified as Bailer –1, with a maximum capacity of 19,300 pounds per hour.
(f) Three (3) natural gas fired boilers identified as B-1, B-2 and B-3 with maximum heat input rate of 8.165 million BTU / hour and exhausting to three stacks identified as B-1, B-2 and B-3.

The following conditions shall be applicable:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

   (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

   (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

2. Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the pneumatic scrap collection system shall not exceed 20.19 pounds per hour as determined by the following:

   Interpolation and extrapolation of the data for the process weight rate up to sixty thousand

(60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The Cyclone 1 and Cyclone 2 shall be in operation at all times the pneumatic scrap collection system is in operation, in order to comply with this limit.

3. Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating), the PM emissions from the three 8.165 MMBtu per hour heat input Boilers B-1, B-2 and B-3 shall not exceed 0.6 pounds per MMBtu heat input individually.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Management that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.1-2(f)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

GS

cc: File – Bartholomew County
Bartholomew County Health Department
Air Compliance – D.J.Knotts
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Registration
Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3).

Company Name:	**Columbus Containers, Inc.**
Address:	**3460 Commerce Drive**
City:	**Columbus, IN 47201**
Authorized individual:	**Chuck Surges**
Phone #:	**(812)-376-9301**
Registration #:	**005-11635-00089**

I hereby certify that Columbus Containers, Inc. is still in operation and is in compliance with the requirements of Registration **005-11635-00089**.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name: **Columbus Container, Inc.**
Source Location: **3460 Commerce Drive, Columbus, IN 47201**
County: **Bartholomew**
SIC Code: **2653**
Operation Permit No.: **005-11635-00089**
Permit Reviewer: **GS**

The Office of Air Management (OAM) has reviewed an application from Columbus Container, Inc. relating to the construction and operation of corrugated box manufacturing facility.

Unpermitted Emission Units and Pollution Control Equipment

The source consists of the following unpermitted facilities/units:

(a) Four (4) shredders identified as Shredder – 1, Shredder – 2, Shredder – 3, and Shredder – 4, with maximum capacity of 3,600 pounds per hour each.
(b) One (1) shredder identified as Shredder-5 with a maximum capacity of 5,600 pounds per hour.
(c) One (1) cyclone identified as Cyclone #2 with a maximum capacity of 36,800 pounds per hour operating at 99% control efficiency and exhausting to C-2. The output from Cyclone #2 bottom hopper is fed to Cyclone#1.
(d) One (1) cyclone identified as Cyclone #1 with a maximum capacity of 21,600 pounds per hour operating at 99% control efficiency and exhausting to stack identified as C-1. The output from Cyclone #1 is fed to the baler.
(e) One (1) baler identified as Baler –1, with a maximum capacity of 19,300 pounds per hour.
(f) Three (3) natural gas fired boilers identified as B-1, B-2 and B-3 with maximum heat input rate of 8.165 million BTU / hour each and exhausting to three stacks identified as B-1, B-2 and B-3.

Existing Approvals

This is the first air permit approval for this source.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the cyclones be considered as an integral part of the corrugated box manufacturing process:

(a) The primary purpose of the cyclones is not to control air pollution. The pneumatic collection system is used to collect scrap material from the shredders, rippers and blowers. This material passes through two cyclone separators and is collected in baler that is used for bailing the scrap.

(b) The cyclone and pneumatic conveying system is used to recycle scrap material.

(c) This equipment would have been installed even if the air quality regulation were not in place, because it is the only way to clean the scrap material from the shredders and avoid choking them completely.

IDEM, OAM has evaluated the justifications and agreed that the cyclones will be considered as an integral part of the corrugated box manufacturing process. Therefore, the permitting level will be determined using the potential to emit after the cyclones. Operating conditions in the proposed permit will specify that these cyclones shall operate at all times when the corrugated box manufacturing process is in operation.

Enforcement Issue

(a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment.*

(b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
C-1	Cyclone 1	32	3	19,200	72
C-2	Cyclone 2	34	3	34,500	72
B-1	Boiler 1	30	1.5	2,647	400
B-2	Boiler 2	30	1.5	2,647	400
B-3	Boiler 3	30	1.5	2,647	400

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 20, 1999, with additional information received on October 03, 2000.

Emission Calculations

See Appendix A page 1 and 2 of this document for detailed emissions calculations. Also included in Appendix A is the copy of letter received from Mr.Donald G.Cox P.E., guaranteeing 99% control efficiency for PM less than 100 micron size for the two cyclones. The Cyclone#2 output from the bottom hopper is fed into Cyclone#1. Even while Cyclone #2 is rated at 36,800 pounds per hour, due to this configuration, this cyclone can never exceed the capacity of Cyclone#1 at 21,600 pounds per hour. Therefore, emission calculations for both Cyclones are based on 21,600 pounds per hour process rate.

Potential To Emit of Source After Controls (as controls are integral)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as Athe maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.@

Pollutant	Potential To Emit (tons/year)
PM	19.12
PM-10	19.72
SO_2	0.1
VOC	0.6
CO	9.0
NO_x	10.7

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants is less than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.1.

(b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

County Attainment Status

The source is located in Bartholomew County.

Pollutant	Status **(attainment, maintenance attainment, or unclassifiable; severe, moderate, or marginal nonattainment)**
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Bartholomew County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Bartholomew County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	19.12
PM10	19.72
SO_2	0.1
VOC	0.6
CO	9.0
NO_x	10.7
Single HAP	-
Combination HAPs	-

(a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

(a) As the individual maximum capacities for the steam boilers are less than 10 million BTU/hour, New Source Performance Standard, 40 CFR 60.40c Subpart Dc does not apply. There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Bartholomew County and the potential to emit any criteria pollutant is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the pneumatic scrap collection system shall not exceed 20.19 pounds per hour as determined by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The Cyclone 1 and Cyclone 2 shall be in operation at all times the pneumatic scrap collection system is in operation, in order to comply with this limit.

326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating)

The sources of indirect heating at this plant location are subject to this rule. Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating), the PM emissions from the three 8.165 MMBtu per hour heat input Boilers B-1, B-2 and B-3 shall not exceed 0.6 pounds per MMBtu heat input individually.

Conclusion

The construction and operation of this corrugated box manufacturing facility shall be subject to the conditions of the attached proposed **Registration 005-11635-00089.**

Appendix A: Emissions Calculations
PM emissions from the Cyclones

Company Name: Columbus Container, Inc.
Address City IN Zip: 3460 Commerce Drive, Columbus, Indiana 47201
CP: 005-11635
Plt ID: 005-00089
Reviewer: GS
Date: 10-05-2000

Emission Unit	Ouputs to	Capacity (lbs/hour)	Solids Content %	Control Efficiency %	PM emissions (lbs/hour)	PM emissions (tons/year)
Cyclone 1	Feeds Bailer	21600	99%	99%	2.16	9.46
Cyclone 2	Feeds Cyclone 1, therefore limited to maximum capacity of Cyclone 1	21600	99%	99%	2.16	9.46
Total						18.92

Notes:

1. It is assumed that only 1 % of the total material collected will be in the suspended particulate state.
2. The control efficiency of 99% is used, based on the letter issued by Donald G.Cox, PE as the gaurentee for control efficiency of the Cyclones.
3. PM10 emissions are assumed to be equal to PM emissions

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **Columbus Container, Inc.**
Address City IN Zip: **3460 Commerce Drive, Columbus, Indiana 47201**
CP: **005-11635**
Plt ID: **005-00089**
Reviewer: GS
Date: 10-05-2000

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
24.5	214.6

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.2	0.8	0.1	10.7	0.6	9.0

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).
See page 2 for HAPs emissions calculations.